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Banking and Industry Between the Two Wars:

The United States

by

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Banking and Industry Between the Two Wars: The United States[1]

I. Introduction: A Framework for Analyzing Bank/Industry Relations

The relations between "banking" and "industry" in a capitalist economy are part of the total financing relations within the economy. These financing relations depend upon the nature of industry, the importance in the economy of various sectors, and the legal framework and historical experience which determine both the instruments that are used for the external financing of activity and the proximate holders of the various classes of instruments. Banks and banking can be used as the generic labels for the specialized units and activities that facilitate the external financing of business, households and governments--the three major sectors that make up a national economy. (International financial relations are largely ignored in this paper.) In practice, the term "banks" is often restricted to institutions some of whose liabilities function as money.

Financing always involves two sets of exchanges separated by time. One set of the financing involves an exchange of money for a "newly created debt or equity" instrument. The instrument states commitments by the issuer; these commitments usually are to pay money either at some specified time, or if earned or if some contingency occurs. The second set of transactions involves the carrying out of the commitments by the issuer of the instrument; these transactions almost always involve a flow of money from the financed to the financing organization. Financing relations involve an intertemporal exchange, they are money now for money later contracts. But the instruments created in this "money now, money later" transaction in many cases can themselves be traded or hypothecated in the interval between the first and second exchange. Therefore it seems best not to wash out the two step process of financing,

money exchanged for instruments being step one and the commitments on the instruments being carried out being step two because the price of the instruments in the interval between the steps are determined and determining factors in system behavior.

We can assume that the unit that gives up money now in exchange for money later does not do so on "blind faith." The unit that gives up money now wants some assurance that the second set of exchanges will be forthcoming. Thus bankers are "specialists" in "determining" the likelihood of success of money-making business schemes that require external finance. Particular bankers are specialists in facilitating the financing of different types of ventures. The various classes of banks that exist in an economy will reflect ways in which the special financing needs of different segments of the economy are being handled. For example, the highly decentralized "localized" sets of "savings banks" in the United States exist (this is now in transition reflecting a commitment to decrease regulation) because experience presumably indicates that decisions about the desirability to finance housing at a particular site are best made if the financing unit has detailed knowledge of the community.

In this view of banking and finance the "loan officer," whether of a bank, a housing financing organization, an installment credit company or an investment banker structuring a "multi-billion dollar merger" is a key operator in the markets that finance activity. On all levels bankers weigh the likelihood of the cash needed to validate instruments being forthcoming so that the instruments are validated before committing himself to a "deal." Banking, by its very nature, involves present views about the future.

Bankers can either hold instruments for their own institutional account or they can be "middlemen" who sell instruments to final holders: as

middlemen bankers can act as brokers, who for a commission bring buyers and sellers together, or they can be dealers, who buy the instrument for a trading inventory and sell out of inventory. If bankers hold instruments for their own institutional or trading accounts they must have sources for the funds they spend when they acquire instruments. Thus the bankers who hold portfolios always make two sets of money now, money later deals. In one set they acquire money now in exchange for promises to pay money later--this is their liability side--and in the other act they give up money now in exchange for promises to receive money later. Thus financing that involves "banks" always involves three sets of balance sheets: those of the units that finance the banks, the banks themselves and the units being financed.

Today is of course the later date from some prior transactions. Each "business day" bankers receive money from prior borrowers, which for dated loan contracts extinguishes the claim: bank liabilities and assets are "destroyed" as the money later part of the bank transactions take place. If we think of bank liabilities of particular classes as money and recognize that the "repayment" of a loan to a bank can be considered as taking the form of a destruction of a customer's deposit, then a new loan by a bank creates "bank money" and the repayment of bank loans destroys "bank money." The course through time of the money supply of an economy whose money is predominantly bank liabilities is determined by a process in which money is created and destroyed.

A banker operates by making commitments to finance. These commitments are drawn upon as the borrowers need for financing develops. However a banker in a modern economy with a sophisticated money market is always fully invested. Thus a banker operates with the expectation that the funds to fulfill the commitments to finance can be gotten when the time to honor

commitments arises. Part of the funds that will be available at the dates when financing commitments come due are the payments by debtors to the bank on the assets owned by the bank.

The well known "bank credit multiplier" makes it apparent that the assets that a banking system can acquire are limited by the effective reserve base and the fractional reserve requirements: both the effective reserve base and the fractional reserve requirement are presumably determined by the Reserve Bank. Even though it is true for the banking system that "bank loans" determine "money", for each bank in the system it is necessary to have money in order to lend. In banking practice, where today's lending is the result of past commitments and the amount that is "drawn down" at any date is not fully known beforehand, borrower's drawings, debtor's repayments and the debit and credit transactions of depositors (i.e., those to whom the bank owes money) leads to a transitory deficit or surplus of reserve money. In all banks there exists some officer or set of officers who are responsible for raising money if needed and for placing funds that are temporarily in excess: these officers constitute the bank's money position desk.

The money position desk and loan officers are the two key "operators" in a bank. The operations of both are affected by the flow of funds to the bank on account of prior commitments by debtors as represented by the assets owned by the bank. The cash flow to a bank on account of debtors' commitment is a major component of the total funds that a money position manager has available on any day. To a money position manager a bank is not creating money when funds that are accruing, because of receipts due to assets, are lent or invested; money is just being redeployed from one user to another. However, if there is a shortfall of receipts, from debtors or creditors, the money position manager must go out and buy money to fulfill commitments. Thus the

dependence on money market sources of funds by banks depends in good part upon the fulfillment or lack of fulfillment of commitments on debts.

Loan officers finance business on the basis of margins of safety; the main margin of safety that a loan officer considers is the excess of prospective earnings by the users of funds over the charges that the bank levies for the use of funds. Thus if interest rates on bank loans are 6% the loan officer "protects" himself by lending to businesses with a prospective return of, say, 15%; if the interest rate is 10% the prospective return by borrowers will need to rise to, say, 20%. Thus the loan officer evaluates businesses in terms of the cash they can be expected to generate in comparison with the cash that is needed to fulfill the financing contract.

Obviously the determination of the cash to be expected by the borrower depends upon the loan officer's views of what business conditions over the time of the contract will be; these views, even in an era where loan officers use forecasts of the economy, are seriously affected by the performance on outstanding loans. Thus a key determinant of loan officer's willingness to make loans is the flow of funds to business that enables business to fulfill commitments.

Banker's experience with the fulfillment of contractual commitments by debtors has two direct effects: it determines the extent to which the managers of the position of banks have to resort to market sources for funds and the margins of safety required by loan officers as loans are being made. There is a third effect--a feedback from the position-making operation to the loan officers--in that the resort to the money market for funds by loan officers usually raises the cost of funds to banks--and bank lending rates are determined by the cost of funds.

Thus a critical element determining the relations between banking and industry is the path of the cash that business has available to pay debts. In a modern economy the "wage bill" of a firm can be considered a claim upon the gross receipts that are prior to the payment on debts: thus if we consider the acquisition of purchased materials as giving rise to some form of debts--perhaps very short term debts--the relevant cash flow that enables a business to fulfill commitments on liabilities--both debts and equities--is total receipts minus its wage bill. When aggregated over the entire economy for an economy without external trade, this is the gross capital income--or gross profits. Gross business profits after taxes is the key flow upon which the contract fulfillment "second" part of financing arrangement between business and industry rests. Over any short period of time the relations between banking and industry depends upon the adequacy of business profits relative to the payment commitments on debts.

II. A Theoretical Framework for Analyzing Finance/Business Interrelations

There are two basic "flows" of cash, of funds, between the financial structure and industry. One is a flow from finance to industry. This flow finances investment and the holdings of capital assets. The actual pace of investment at any time depends upon what is financed. The investment planning and the programming of investment through time depend upon the projected sources and terms of available finance. Thus a theory of aggregate economic activity for an economy with corporations, which invest and have complex liability structures, and a complex structure of banking and financial institutions, must have at its core an explanation of how bank and financial institutions affect investment.

The other basic flow that links banks and industry is that of funds from industry to banks, financial institutions and others holders of business liabilities. These flows fulfill the terms of the various financial contracts that were entered upon in the past. The basic source of funds that enables business to fulfill contracts is the flow of profits, even as it is the expected flow of profits that enables bankers and business men to enter upon financial contracts. Profits in this sense are gross capital income; in the national accounts these "profits" are the sum of business interest payments, business rent payments, business "capital consumption allowances" and net profits adjusted for taxes. For simplicity's sake we will call the gross capital income (which as an anticipated flow yields value to capital assets and is the incentive for investment and as a realized flow is the source of funds for the fulfillment of maturing financial obligations, the internal financing of investment by business, and the consumption expenditures of owners of wealth) profits.

In any theory of the economy in which investment and its financing, business debts and their validation are important, it is necessary to explain profits as a variable that is determined by the level of activity even as profits determine activity. In the argument that follows the link between investment and income through the multiplier of standard macroeconomic models is replaced by a link between investment and profits. Basically, in an economy that produces both investment and consumption goods, the system of consumption goods prices that rules must ration consumer goods to those who work producing investment goods as well as those producing consumer goods: Thus in the market the prices of consumer goods must be marked up over the income earned producing consumer goods--this mark up reflecting the income earned producing investment goods.

In a quite simple framework of accounting relations and behavioral assumptions due to Kalecki a clear link between aggregate profits (i.e., aggregate capital income) and investment exists such that profits equals investment.[2.] In more complicated models profits depends upon investment, the government deficit, the balance of payments and savings propensities of different classes of income recipients. As the structural relations of an economy changes, the susceptibilty of profits to sharp cyclical swings changes. In particular the sensitivity of aggregate profits to swings in aggregate private investment is dependent upon the size of government and the sensitivity of the government deficit to swings in income and employment. In a big government capitalism, where a decline in investment and its associated decline in income and employment leads to a large increase in the government's deficit, profits will be more stable than in a small government capitalism.

Business debts are only part of the debts of an economy: households and government units also issue debts. They, too, received money now in exchange

for promises to pay money later. The ability to validate these debts depends upon the flow of income to these units. For households wages are the basic dominant flow of income receipts and for government the basic flow is taxes. In general the flow of wages depends upon the level of income and thus the ability of wage-earners to fulfill the terms on their debt contracts depends upon the level of income. In the United States state and local governments issue debts on the basis of their own credit, and their ability to fulfill their payment commitments depends upon their ability to collect taxes or their receipt of transfers from the Federal Government or agencies of the Federal Government.

The Federal Government also sells debts for money and has outstanding debts that require funds. The Federal Government's ability to issue debts depends upon the current views about its ability to fulfill debt commitments. The funds to fulfill these commitments will come from either taxes or the government's ability to issue money or to force its liabilities on banks or other units, i.e., the Federal Government more than other units can issue debts to pay debts.

Although the issuing of debts to pay debts is more readily acceptable for Federal Government units than for other units, Federal government units are not unique in this respect: private economic units as well as state and local governments often obtain funds to pay debts by issuing new debts. Such "rolling over" financing may be advertent--by decision and plan and therefore with the prior agreement of "bankers"--or may be inadvertent because plans, prospects or realizations deviates from anticipated. In both the advertent and inadvertent cases of rolling debts over the debtor's financial prospects will change as the conditions--mainly interest rates--on debts change.

Funds to meet payment commitments can also be obtained by selling assets.

If the "assets to be sold" have a thin market--or if the market for some reason becomes thin, in the sense that large price concessions are needed to affect sales then the ability to obtain sufficient funds to fulfill commitments on debts by selling assets is compromised. In particular insolvency occurs when the cash flows from operations are insufficient to meet payment commitments and the recourse to either rolling debts over or selling assets does not raise sufficient cash to fulfill commitments.

The system of financing in a capitalist economy is based upon margins of safety embodied in anticipated excesses of cash receipts over payment commitments and of asset values over capitalized payment commitments. Whenever, for whatever reasons, the margins of safety in existing contracts are compromised then the ability and willingness of bankers and businesses to finance new expenditures and to enter into debt contracts to finance holdings of capital assets are compromised. When this occurs investment, and with investment profits, tends to fall. Instability in a capitalist economy is intimately related to what happens <u>after</u> an initial fall in asset prices and investment--whether this triggers a debt deflation or whether the debt deflation process is aborted by devices that lead to the sustaining of profit flows and asset values.

III. An Overview of the Inter-War Period

The relations between business and banking in the inter-war period--after the initial period of deflations and recessions that ended in July of 1921--fall into four "eras": (1) the eight "fat" years of overall prosperity from July 1921 through August of 1929; (2) the massive contraction that ran for more than 3 1/2 years from August 1929 through March 1933; (3) a period of reform of finance and business institutions from March 1933 until the end of 1936; and (4) the functioning of the economy within the reformed structures from 1937 until the beginning of the World War II. Of course, the "big test" of the reformed structure took place after World War II, and the environment within which the test took place was contaminated by the financial legacy of the war. Nevertheless, because the first twenty years after World War II was an era of unprecedented financial tranquility, we can presume that "something was right" about the financial structure of say 1948 that was an initial condition for the post World War II era.

During the period from the trough of July 1921 to World War II the National Bureau of Economic Research's chronology of United States' Business Cycles lists four complete (trough to trough) cycles and one "open" cycle that began at the trough of June 1938 and did not end until the war was over. As is shown in Table II, the contractions that began in May 1923 and October 1926 were both short and mild. In particular in these contractions prices hardly fell at all. These contractions stand in sharp contrast to the gigantic contraction that began in August 1929 and continued for 42 months, ending in March 1933. (March 1933 was the month in which Franklin D. Roosevelt was inaugurated as President. The contractions of 1929-33 lasted for 42 of the 48 months of the presidency of Herbert Hoover). In particular the comprehensive GNP price deflator fell by 25.2% and the constant dollar GNP by 32.6% during the Hoover years.

Table I

UNITED STATES BUSINESS CYCLES
1914-1945

Trough (month)	Peak (month)	Contraction peak to trough	Expansion Trough to peak	Peak to Peak
12/ 1914	8/1918	--	44W	
3/ 1919	1/1920	7	10	17
7/1921	5/1923	18	22	40
7/1924	10/1926	14	27	41
11/1927	8/1929	13	21	34
3/1933	5/1937	43	50	93
6/1938	2/1945	13	80W	93W
5	5	5½	5½	5

Source: Geoffrey H. Moore, "A Long-run Look at the Business Cycle," in The Business Cycle and Public Policy 1929-80; a compendium of papers submitted to the Joint Economic Committee, Congress of the United States (Washington, D.C.: U.S. Government Printing Office, 1980), pp. 20-21.

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Table II

DURATION AND DEPTH OF BUSINESS CYCLE CONTRACTIONS

Contractions of January 1920 - July 1921
through Contraction of May 1937 - June 1938
United States

	January 1920 July 1921	May 1923 July 1924	October 1926 November 1927	August 1929 March 1933	May 1927 June 1938
Duration (months) of contractions	18	14	13	42	13
Depth					
GNP current $		-4.9%	-3.0%	-49.6%	-16.2%
GNP const $		-4.1%	-2.0%	-32.6	-13.2%
GNP deflator		-.8%	-1.0%	-25.2	-3.5
Unemployment rate					
Maximum	11.9%	5.5%	4.4%	24.9%	20.0%
Increase	10.3%	2.1%	2.4%	21.7%	9.0%

Source: Same as Table I; p. 26.

The institutional features that were initial conditions for the inter-war period were:

(1) the Federal Reserve System;

(2) the increased use of the corporate form of organizing business;

(3) a large government debt due to the first World War.

The inter-war period was the first peacetime era of the Federal Reserve System. The basic legislation organizing the Federal Reserve was enacted in 1913. As has become clear the Federal Reserve, which was an attempt to apply European experience to the American institutional structure, was based upon a number of misconceptions as to how, in fact, the European Central Banks, and most particularly the Bank of England, operated. After the event it can be argued that the Federal Reserve System's initial structure reflected an attempt to achieve two incompatable objectives:

(1) a banking and financial system that was responsive to the needs of trade.

(2) a monetary system that behaved as if there was a "strict" gold standard.

In historical context the Federal Reserve System, as designed by the legislation of 1913, is but another episode of the money question in the United States. An economic history of the United States in terms of the "money question" and a post-Keynesian understanding of how "money" in an economy with banking is integrated into the accumulation process has yet to be written. It is enough to say that debates and controversy about the relation between money, enterprise and the distribution of wealth and income runs through the the entire history of the American Republic. The dogmatic monetarism that is so evident upon the political stage today is but one further episode in a continuing tale.

The Federal Reserve System was sparked by the crisis of 1907. The crisis of 1907 took place soon after the climactic election of 1896 in which the conservative Republicanism of McKinley won out over the radical populism and Democracy of Bryan. The "free silver" views of Bryan were largely an attempt to create a monetary system that was responsive, in terms of the availability of finance, to the needs of independent farmers and business. The Federal Reserve System in its initial form provided for a flexible currency supply by embodying the "commercial loan" or "needs of trade/business" doctrines. This legislation provided for a monetization of particular eligible debt both by banks and by the central bank. This "real bills doctine" holds that if changes in money and available finance respond to and induce comparable changes in output, then inflation could not result. Monetary changes therefore must be linked to potential flows of output. This view was embedded in various rigidities in the legislated structure of banking and finance.

The real bills doctrine effectively pointed the Federal Reserve System - and thus the member banks to the financing of trade and commerce, rather than to the financing of government and the "capital development of the economy." Because of World War I the Federal Reserve and the banking system quite soon became mainly concerned with the financing of government. In the period of prosperity after 1921 the main financing thrust involved the financing of the "capital development" of the economy.

American banking theory--and therefore legislated institutions such as the Federal Reserve System--and monetary policy views of the time were strongly affected by what was taken to be the British 19th century "classical" usage, in which banks finance the "movement of goods" through both production processes and distribution channels. In this view banks do not finance the ownership of long-term assets. Legislation and regulation often limited the

time to maturity of bank assets; furthermore even though bankers and businessmen obviously have continuing relations bankers are not "supposed to" have an active management input into business decision.

However, capital assets do have to be financed. With the grwowth of large scale capital intensive businesses, the import of the sources and intermediaries of permanent long-term funds, which are the appropriate financing techniques for long-lifed--and special purpose--capital assets, increased. One aspect of the endogenous evolution of the financial system during the 1920's reflected the "need" for longer term financing by business and households. One motivation for the financial reforms of the mid-1930's was the view that the techniques that developed during the 1920's for financing long-lifed capital-asset acquisition and the specialized institutions that emerged were responsible for the over-indebtedness which was believed to be responsible for the Great Depression.

One theme that helps explain the evolution of the relations among banking and industry in the 1920's and 1930's is that the British traditions, in which banks were not vehicles for equity financing of business and other long-term financing of business, households and industry, was inconsistent with the financing needs of the rapidly expanding utilities, capital intensive manufacturing and the emerging patterns of household ownership of durable and expensive consumption assets. Thus there were opportunities for profits in the development of new institutions and the new use of old institutions that centered around the financing of the capital assets of households and of business. In an economy which is open to innovations, profit opportunities in finance will lead to financial innovations. Consumer installment credit houses, utility holding companies, investment trusts and the highly levered stock market of the 1920's were among the responses to the profit opportunities in finance.

This financial evolution took place in an environment in which it was widely believed that the Federal Reserve made a credit crunch or blockage, such as occurred in 1907, impossible. Not only did the Federal Reserve Act provide for a flexible currency but the Federal Reserve System provided for a lender-of-last-resort which it was believed made the debt deflations that characterized deep depressions impossible. Presumably the lender-of-last-resort attribute of the Federal Reserve meant that financial institutions whose assets under "normal" business conditions and "normal" financing terms could validate their liabilities would now always be refinanced under "concessionary" conditions when, for some reason or other, current financial market conditions made market term refinancing unavailable. One problem with lender-of-last-resort interventions is that, in terms of the 1920's/1930's concerns with maintaining the behavior of monetary aggregates as if a gold standard ruled, when lender-of-last-resorts interventions are undertaken, the gold standard rules for the behavior of the monetary aggregates are violated. In terms of today's concern with inflation, successful lender-of-last-resort interventions lead to the monetary aggregates behaving in a manner that is conducive to inflation.

A central bank always has two quite distinct domains of responsibility. One is the "stability" and "progress" of the economy as measured by output, employment and prices. The other is the "stability and "normal functioning", in terms of the availability of finance, of the financial and income system. Because financial instability is only intermittently a problem, the normal concerns of a central bank are with its output, employment and price objectives although, as long as the financial system is functioning normally, it quite likely is true that the policy postures of the central bank, within a fairly wide range, matters but little. Policy postures of the Central Bank matter a great deal when the normal functioning of the financial system is at stake.

In these circumstances a Central Bank must diagnose the particular circumstances, identify and weigh conflicting objectives and improvise modes of intervention. Central Bank action, when lender-of-last-resort concerns are involved, really matters in terms of system behavior and of necessity, because each situation requiring such intervention is in good measure unique, behavior, at these times, is "discretionary."

Thus the Federal Reserve System is responsible for the great contraction of 1929-33 in two ways. Its existence was taken as a guarantee that a serious depression could not again occur. Mild and quickly overcome recessions such as those of 1920/1924 and 1926/27 were the worst that was to be expected. Furthermore, the Federal Reserve was still learning how to use its tools during these episodes. With learning and experience they could better "fine tune" the economy than in the past. This promise of permanent prosperity was conducive to the stretching of private financial postures. This helped to create a fragile system in which a debt deflation could occur.

However, the belief of the time was that with a lender-of-last-resort in place a deep depression cannot occur, for refinancing will prevent the cumulative decline in asset values and the resultant breakdown of normal financing channels. Between August of 1929 and March of 1933 there were ample opportunities for the Federal Reserve to act as a lender-of-last-resort. There are ample recitations of these failures--there is no need to chronicle them again.

In the light of the theory of profit determination in an economy with small government, it is questionable whether effective Federal Reserve lender of last resort intervention in 1930 would have resulted in as mild a recession as those of 1923 and 1926. However, there is a great deal of room between these mild recessions and the great crash. I expect that it is well-nigh universally accepted that effective Federal Reserve lender-of-last-resort

interventions would have prevented the great depth and extended time span of the Great Depression--although it is quite likely that even with prompt actions the length and depth would have been appreciably greater than the 1923 and 1926 experience. Rewriting history is not the issue but as effective Federal Reserve actions in the early 1920's would have sustained asset values and expanded available finance, the current (1970's/80's) problem of the inflationary bias of successful capitalism would have been revealed in the mid-thirties rather than in the mid-seventies.

There is one "quite conventional" aspect in which the 1920's differed from the era that went before. As a result of World War I there was an enormous increase in the outstanding government debt. In 1915 and 1916 the interest-bearing government debt was just under $1 billion ($.97 billion) whereas in 1919 it stood at $25.2 billion. As a result the ratio of Gross National Product to the government interest-bearing debt fell from around 40 in 1916 to 3.22 in 1922. This implied that there was a serious change in the content of bank portfolios over this period; banks now owned government debt. As a result of this enormous, change in the ratio of government debt to income there was a huge increase in the liquidity of banks, households and business. This set the stage for expansion of both household and business demand even as the willingness and ability of the banking system to finance the expansion of private demand increased. The fat years of the 1920's, like the golden era after World War II, were at least in part due to the financial "initial conditions" that were the legacy of a great war.

IV. Aspects of the Financial Structure During the Seven Fat Years: 1923-1929

In February 1933, Professor Viner, struggling to explain and prescribe for the ailing American economy, characterized 1923-1929 as "seven fat years."[3] These years of apparently tranquil progress brought forth a stock market boom of unprecedented dimensions and a variety of new or expanded uses of debt. A brief overview of the period cannot do justice to the financial innovations that characterized the era. Innovations and expanded usage of old forms transformed the financial structure into a system that was susceptible to a serious debt deflation. In this paper I will explain how four aspects of the evolution, (1) the uses to which credit was put in the stock market, (2) the nature of household debt and in particular the household mortgage, (3) the expansions of utility-holding companies and (4) the reduction of the government debt, contributed to the creation of a debt-deflation prone economy. This selective approach is mandated by the need to be brief.

If banking is considered broadly, it is the set of institutions and usages which provide external finance to economic units. With this definition the underwriting, marketing and facilitating of transactions in debt and equity ~~institutions~~ instruments is a banking function. In some banking systems the institutions which provide currency and/or deposit facilities also own equities and long term business debts; these banks also participate actively in the management of business. Such banks can be called Universal Banks. The Anglo-American tradition separates "commercial" from "investment" banking. This separation was not fully institutionalized in the United States until the reforms of the 1930's. Nevertheless, the equity interest in firms through the 1920's mainly took the form of direct household ownership, with some unit or closed investment trust involvement. The Universal bank format, in which banks own equities and households own liabilities of banks was not the practice in the

United States. Furthermore, the role of the "institutional investor" was minor compared to today's large role of pension funds.

This pattern of direct ownership of equities by households did not mean that banks were not involved in the financing of equity positions. Securities that are traded on organized stock markets, or even in the more informal over-the-counter markets, have a value and yield a cash flow in the form of dividends and interest. Therefore they are bankable assets and can be used as the basis for collateralized borrowing.

Such ability to borrow to hold equities is necessary if the equity market is to be a source of new funds for existing firms. Only if borrowed funds are available to take up new issues can the underwriters be assured that there are funds out there to take up new issue and can owners be assured that they can at least partially protect themselves against a dilution of their equity interest when new issues are put out. Thus a stock market with margin financing is a necessary part of the institutional arrangements if a "household"-oriented stock market is to exist.

The return from holding equities is the sum of the dividends--the cash flow to the equity owners--and the (positive or negative) appreciation. If the cash flow per share dollar exceeds the interest rate then the share owners make on the carry--if the cash flow per share dollar falls short of the interest rate then the share owners lose on the carry. When share owners purchase shares even though they expect to lose in the carry, they must expect that the shares will appreciate so that the returns from holding shares exceeds the returns available from holding debt. However, even if the equity shares are appreciating, when cash dividends fall short of the interest payments due on debt, there is a negative cash flow. In these circumstances

the indebtedness of the equity owners increases each period: interest that falls due is being capitalized.

Because of the liquidity of stock exchange collateral, in the 1920's up to 90% of the value of an equity position could be financed by debt. As the anecdotal histories, such as J.K. Galbraith's "The Great Crash," emphasize, in the stock market booms of the 1920's the market price of "growth" issues, which had never earned very much in the way of profits were "booming" on the basis of positions largely financed on margin. Obviously a security market in which a positive return to holders largely depends upon asset appreciation is sensitive to the views of the potential for asset appreciation and the costs of carrying positions.

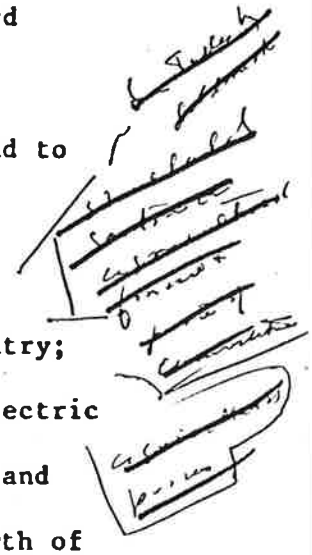
A thin equity margin stock market in which stock owners largely capitalize interest is an example of Ponzi finance, for the owners of any particular position depend upon the cash available from selling out or refinancing the position to fulfill obligations on debts. A market in which selling out is the primary way to validate positions depends upon the existence of buyers: if such a market has been appreciating for several years, even a "new era" psychology can become fragile. If in these circumstances the monetary authorities raise the cost of carrying positions, an end to the run up of stock market price will take place. But if the major part of the total anticipated returns from holding an asset is the expected rise in the asset price, an end to such price expectations, or an appreciable rise in the cost of carrying positions, will lead to a sharp fall in the price of assets.

The repurcussions from a sharp fall in asset prices in a highly levered market where the "collateral" is the sole lender's protection can be disastrous not only to the asset owners but also to the financing agent. The nature of the stock market of the 1920's and in particular the role of asset appreciation

in promoting rapid income expansion in the years leading up to mid-year 1929, meant that any slow down of the rate of appreciation of equity prices would have serious financial system and income implications.

During the 1920's household debt to finance home ownership, consumer durables and securities expanded greatly. Unfortunately the typical household mortgage was of relatively short duration and only provided at best for a partial amortization of the principal during the life of the contract. This meant that the ability to "pay off" a maturing mortgage mainly depended upon the ability to refinance. If a sharp fall in the market price of property or in the wage income of the property owner took place, then the ability to refinance maturing mortgages would be compromised. This would force an attempt to make position by selling out of position. In the 1920's this process usually took the form of a foreclosure on the mortgage and a sale of the property by the mortgage holder.

The 1920's saw a boom in urban rental housing. These "business enterprises" were financed by relatively short-term mortgages. A decline in wage income would compromise the rent rolls. The nature of the standard mortgage--which made for the periodic refinancing of outstanding principal--meant that a decline in consumer disposable income would lead to price pressure in the housing market and a compromise of the financial viability of institutions that specialize in housing finance.



The 1920's saw a large increase in the electrification of the country; furthermore, the costs and profit opportunities of the technology of electric power generation and distribution meant that large generating stations and interconnected distribution systems were "efficient". The initial growth of the industry had taken the form of local systems. In the 1920's an

integration of generation and distribution systems took place. The financial device which made this possible was the holding company by which a "central" company acquired control by owning equity shares in subsidiary "operating" companies.

In a holding company system, both the operating and the holding companies can issue debt as well as equity liabilities. The operating companies issued debt to finance the acquisitions of capital assets whereas the holding company issued debt to finance its position in the equities of the companies that are "owned." Thus the holding company device increases the debt-financing of the underlying operating capital assets. The debts of the operating companies as well as those of the subsidiaries can be validated only by the flow of profits from the underlying electric power generation. Obviously any shortfall of profit flows--either because the carrying costs for debts rise or because receipts fall short of anticipated receipts--will lead to problems in debt servicing. The holding company devise facilitiated the rapid expansion of utility capacity in the 1920's. It led to an industry with a debt structure which was very vulnerable to a decline in profitability. As the depression that followed ran its course, the financing pattern for utilities that developed in the 1920's served to amplify the decline.

The special vulnerability of equity prices, the mortgage structure which required periodic refinancing of mortgages, and the emergence of amplified leverage through holding companies were part of the pattern of financial developments of the 1920's which made the debt deflation of 1929-33 possible. The changing weight of United States Government debt in the total financial position was another. Between 1922 and 1929, total Federal Government obligations fell from $24.4 billion to $18.2 billion. This decline over the period of fat years led to a doubling of the ratio of gross national product

to U.S. government securities; the ratio rose to 6.45 in 1929 (from 3.22 in 1922). Furthermore the ratio of Demand Deposits and Currency minus the financial system's holdings of U.S. Government securities to the total U.S. government obligations rose from 1.3 in 1922 to 2.6 in 1929. The safe secure "outside asset" that sustains consumption and provides a safe asset base for risk taking declined in weight in the economy.

It is worth noting that the decline in the government debt meant that the basic fiscal posture of the Federal Government was structured so as to run a surplus. But by the Kalecki profit-determining relations, a government surplus is a negative factor in determining aggregate business profits. Thus the fiscal posture of the "fat years" served to undermine both the secure base of the financial structures, upon which bankers build their superstructure of assets at risk, and business profit flows, which serve to validate the "at risk" portion of bank assets.

V. The Great Collapse

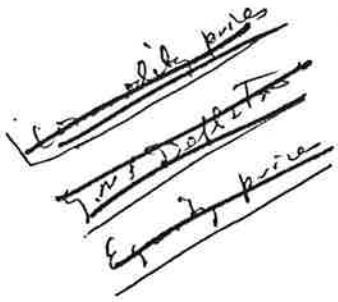
Between the third quarter of 1929 and the first quarter of 1932 the financial system collapsed even as the economy contracted. There is no need to repeat the story of the financial and economic debacle of these years. Much has been written about a monetary explanation of the events. Suffice it to say the simple-minded quantity theory explanation with only one-way causality running from money to economic activity does not explain what happened. Even in a simple quantity theoretic view the decline in velocity from 2.6 to 1.4 carries more of the weight of the decline in income that the decline in Demand Deposits and Currency from 54.8 to 40.8. Whereas the average annual rate of decline in money between 1919/33 was 7.1%, the average rate of decline in velocity was 13.8%.

The debt deflation/overindebtedness theory of great depressions and their aftermath is more consistent with the evidence than any simple monetary view--even the monetary view must acknowledge that the decline in money and velocity was carried by the waves of failures of banks and other financial institutions. It is poor science to ignore the evidence of profit flows and financial commitments as inherited from the past in explaining the great collapse. The special theory that emerges from the 1929/33 experience is that the behavior of the various units as they endeavored to do the best for themselves after 1929 made things worse in the aggregate: Collapsing asset values, in an economy where private debts finance investment and asset holdings, destabilizes the economy.

The experience of 1929/1933 had a profound effect upon the relations between banking and finance on the one hand and industry on the other. One aspect that emerged as the 1930's progressed was the "input" to aggregate business profits of chronic deficit financing by government. In a closed

economy only as the government runs a deficit can profits exceed investments. Self-financing of business by means of retained earnings, in an economy where part of business earnings are "assigned" to debt servicing, can take place only if the government runs a deficit.

The 1929-33 experience saw two price levels fall drastically. One was the price level of current output--which fell by some 25% from 100 in 1929 to 75 in 1933 (GNP deflator). The second was the price level of assets--especially of equity shares. This stood at 26.02 in 1929 and 6.93 in 1932, a fall of 73%. An inference drawn by policymakers from this experience was that price level declines of the magnitude of the 1929-33 experience were bad and devices had to be intruded into the economy which would prevent such price declines. In the absence of a theory of aggregate demand (Keynes came later) this intrusion took the form of devices that prevented price declines--which in effect meant that "grants" of market power and income guarantees which aimed at preventing future wage and price declines were put into place in the era of reform that followed. The grants of market power that resulted, as well as cash flow stabilization by government deficits became parameters that have guided the relations betwen banks, financial institutions and industry since the great depression.



VI. The Reforms

A. Overview

Even as Franklin Delano Roosevelt was inaugurated on March 4, 1933, the banking system was "shut down." In the next hundred days an enormous volume of legislation was enacted.

> "On adjournment on June 15, 1933, the President and the exhausted 73rd Congress left the following record:
> March 9--the Emergency Banking Act
> March 20--the Economy Act
> March 31--establishment of the Civilian Conservation Corps
> April 19--abandonment of the gold standard
> May 12--the Federal Emergency Relief Act, setting up a national relief system
> May 12--the Agricultural Adjustment Act, establishing a national agricultural policy, with the Thomas amendment conferring on the President powers of monetary expansion
> May 18--the Tennessee Valley Authority Act, providing for the unified development of the Tennessee Valley
> May 27--the Truth-in-Securities Act, requiring full disclosure in the issue of new securities
> June 5--the abrogation of the gold clause in public and private contracts
> June 13--the Home Owners' Loan Act, providing for refinancing of home mortgages
> June 16--the National Industrial Recovery Act, providing both for a system of industrial self-government under federal supervision and for a $3.3 billion public works program
> June 16--the Glass-Steagall Banking Act, divorcing commercial and investment banking and guaranteeing bank deposits
> June 16--the Farm Credit Act, providing for the reorganization of agricultural credit activities
> June 16--the Railroad Coordination Act, setting up a federal coordinator of Transportation."[4]

Three major thrusts can be discerned in the legislation: (1) the reopening, reform and restructuring of the banking and financial system, (2) the imposition of "organization" upon industry, agriculture and labor, and (3) the development of government employment, spending and transfer payment schemes. Of the 14 items in the above list, eight dealt with money, banking and financial practices: (1) the Emergency Banking Act, (2) abandonment of the Gold Standard, (3) the Thomas Amendment to the Agricultural Adjustment

Act, (4) the Truth-in-Securities Act, (5) abrogation of the gold clause, (6) Home Owners Loan Act, (7) Glass-Steagall Banking Act and (8) the Farm Credit Act. The Agricultural Adjustment Act, the National Recovery Act, the Railroad Coordination Act, and the fair employment portions of the N.I.R.A. Act were efforts to "organize" industry, agriculture, transportation and labor. The Civilian Conservation Corps, the Federal Emergency Relief Act, the public works portion of the National Industry Recovery Act, and the construction part of the Tennessee Valley Act were starts on the transfer payment, income maintenance and public spending schemes that now characterize government.

The Economy Act and the Tennessee Valley Authority Act fall outside these three divisions. By our present understanding, as conditioned by conventional macroeconomics, the Economy Act which reduced government wages, salaries and pensions was inconsistent with the fiscal expansion required by the depressed economy. The Tennessee Valley Authority Act was the only major example of overt nationalization of industry--covert nationalization occurs when organizations like railroads go bankrupt and the government subsidizes the restructuring of the finances.

B. Banking and Financial Legislation

The banking legislation of the hundred days dealt with three sets of problems:

1. The reopening of the banks after the "bank holiday";

2. The elimination of the gold standard and other external and legislated constraints, so monetary expansion could be attempted;

3. Reform of the banking and financial system in an effort to assure that a collapse could not happen again.

The reopening of the banks was accomplished with a great deal of flair.

The bank holiday fixed the view that banking and finance constitute a fragile set of institutions that need continuous protection and constraint. This view has remained potent, hence the constraints upon entry into banking. Many banks received infusions of equity or near-equity funds from the government's Reconstruction Finance Corporations before they reopened. The arrangements were such that with recovery and World War II the Government's financing was paid off. Government participation in the ownership (and management) of banks was transitory.

The elimination of the gold standard, in favor of a national managed money, was of lasting importance. It allowed the Roosevelt administration to pursue its overtly inflationary objective of manipulating money and exchange rates in an effort to raise wages and commodity prices: a recovery of prices was viewed as a necessary condition for recovery. In order to allow unilateral monetary expansion--efforts at achieving coordinated international expansion having failed--it was necessary to eliminate the gold standard constraints.

In 1933 Roosevelt embarked on a program of buying gold on the open market to raise the price of gold. The price of gold was raised from $20.67 to $35.00 which meant that there was a sharp increase in the dollar value of the world's monetary gold stock. By quantity theory of money reasoning (which guided Roosevelt) this should have led to an equivalent rise in prices, and, with prices, employment. In fact, no such thing happened quickly enough for the "political" restraints.

Roosevelt's gold-price experimentation had a lasting effect for it freed the Federal Reserve and commercial banks from all reserve-shortage constraints on lending and investing. However, the increase in bank lending and investing that followed was not large enough to absorb the reserve increases. The

connection between the banking system's ability to acquire assets and the actual acquisition was weak. From this the conclusion was drawn that monetary measures, in a situation such as ruled in the 1930's, are not able by themselves to eliminate unemployment.

The third objective of the banking and financial legislation of the 100 days was to create a banking structure that would make another banking collapse impossible. Measures of the 100 days and the second New Deal (1935-36) concentrated on curbing speculation, simplifying financial structures, forcing corporations to disseminate "honest" information, and safeguarding bank and financial institution assets and liabilities through the extension of government guarantees. In the effort to curb speculation the government barred interest payments on demand deposits, separated investment and commercial banking, prohibited loans for the account of third persons, and allowed the Federal Reserve to set margin requirements on stock collateral. Underlying these measures was the belief that a speculative boom during the twenties had brought on the collapse of 1929, that interest on demand deposits forced banks to seek out borrowers able to pay high interest rates, and that "speculators" were better able to pay those high rates than productive users of credit. Similarly, it was felt that when bankers were both investment and commercial bankers they would both encourage depositors to speculate and use commercial bank resources to support speculations they encourage. The restrictions on margin buying of securities and on third-person loans were aimed at eliminating financial practices that were taken to have abetted instability. The margin practices of the 1920's, largely financed by loans for the account of others, were examples of "Ponzi" finance.

The legislation of Roosevelt's first hundred days included government insurance and guarantees of bank deposits and home mortgages. Deposit

insurance was the response to the Federal Reserve's failure to live up to its role as lender-of-last-resort during the great contraction of 1929-33.[5] Mortgage insurance not only absorbed risk but by insuring long term fully amortized fixed interest rate mortgages it changed the standard home mortgage from an instrument of speculative and Ponzi financing into an instrument of hedge financing.

Along those same lines, various agricultural credit provisions of the Roosevelt era promoted longer-term debt arrangements. Furthermore the agricultural credit and contingent purchase schemes by government assured that disastrous price dips of agricultural products would not occur. These credit schemes and price guarantees improved the "quality" of farmers as debtors. The shift to capital intensive agriculture that has occurred since the 1930's can be imputed to the improvements in farm credit arrangements and to the stabilization of farmer expected receipts.

In addition to restricting speculative credit, the reforms aimed to assure honesty and probity in the sale of securities and in the management of publicly held businesses. This followed from a belief that dishonest practices and unethical manipulations, not inherent attributes of capitalist finance, were responsible for the Depression.

C. Intervening in Industry, Labor, and Agriculture

The set of views that competition bred falling prices, steeply falling prices caused the depression, low prices sustained the depression, higher prices were necessary for recovery, and that the likelihood of future depressions would be diminished if prices could not fall fast or far, underlay the National Industrial Recovery Act. The NRA was the core of the first Roosevelt revolution. Though ultimately thrown out as unconstitutional and dismissed as a failed experiment, the NRA left a lasting ideological and

policy heritage. One aspect of the NRA was a propaganda drive: the Blue Eagle, parades, posters, etc. The view that what is wrong is mainly due to perceptions which can be changed by propaganda persists in various campaigns that are mounted against inflation and unemployment and by the existence of business and labor advisory committees. Such devices are vehicles which make it possible to evade examining and correcting the causes of the failure of the economy.

By setting production standards and techniques, establishing "fair" markups, minimum wages and working hours, the NRA became the sponsor of cartels. The view of competiton as the cause of economic disaster led to the belief that production had to be rationalized into larger and financially stronger units. As a result the NRA organized corporations into market-controlling "code authorities." The price extracted from business for this "freedom" was the legitimization of trade unions and the pledging of fair labor standards.

To a degree the NRA reflected an awareness of the difference between highly capital-intensive and less capital-intensive production, in that for outputs produced by capital-intensive techniques current market prices must contain a significant markup on out-of-pocket costs. Competitive market pressures can lead to a drastic decline in the markup for productions that are capital intensive whenever excess capacity exists. However, NRA did not reflect the basic relation of a capitalist economy--i.e., that investment plus the government deficit largely determined aggregate profits. This basic relation implies that once investment and deficit are given, the markup on labor costs, or the profit per unit of output, determines the level of production. Consequently, the level of employment consistent with the level of investment and government deficits becomes a function of the markup units

can achieve. Raising markups through the NRA codes increased the profit per unit of production, particularly in the capital-intensive, mass-production industries, even as they decreased the level of output consistent with the aggregate profit level. Higher markups, first legitimized and enforced by the NRA codes and then sustained by quasi-cartels, were a barrier to recovery in the 1930's.

The Agricultural Adjustment Act overtly attempted to raise agricultural prices by limiting supply. The Act was struck down by the Supreme Court in 1936, but its main thrust--guaranteeing cash flows to farmers through outright government payments, loans, purchases, or production limits--has remained the core of agricultural policy to this day.

A large part of the legacy left by the New Deal--soft antitrust policies, the corporation as the dominant form of business organization, the symbiotic relation between industry and organized labor, and agricultural guarantees--effectively bars declines in prices. The specific form of the barriers have changed in the course of years, but the overall policy thrust has not.

D. Transfer Payments and Other Government Expenditures

The Civilian Conservation Corps, the Federal Emergency Relief Act, the public works program of the NRA, and the crop purchase programs of the AAA were "100 day" enactments that involved overt government spending--pump-priming, as it was then called. Furthermore, of these only the public works program was rationalized as spending per se, and even so its administrator, Harold Ickes, made sure that the government got value for its money. The Federal Emergency Relief Act was considered primarily to be a humanitarian effort. The CCC was an attempt to ameliorate social conditions due to youth unemployment. All these programs had one thing in common--work relief rather than pure transfer

payments, even if the value of the output was relatively minor, was the instrument of income maintenance.

Transfer payments to individuals did not become a permanent part of the economic landscape until 1935. These measures, which grew and developed over the next 40 years, became a multidimensional set of payments which sustain household disposable income. The peculiarities of the Social Security tax and payments system became a major source of both downside stability and inflationary pressures as the post-war era developed, but their overall impact between 1935 and World War II was minor.

Despite the increased government spending during the early New Deal, spending in itself was not considered a policy goal but rather a transitional though necessary phase in the recovery program. Big government did not become a permanent and accepted feature of our economy until World War II and after. The New Deal tried to solve the problems thrown up by the Depression through monetary expansion and the restructuring of existing institutions; fiscal policy, as it had been understood since Keynes, was not part of the weaponry.

E. The Roosevelt Revolution: A Summary

In 1933, as Roosevelt took office, one obvious characteristic of what had taken place in the economy since 1929 was that the price level and money wages were now sharply lower. In these years large scale excess supply in commodity or labor markets usually led to price and wage declines. Trade unions which might have slowed such developments in labor markets were mainly weak and ineffective.

Within the neoclassical theory price and wage flexibility is supposed to assure that full employment will be achieved and sustained. However, the experience of 1929-33 shows that the more prices and wages fell, the worse things got: as wages fell precipitously, unemployment increased rather than decreased.

It is argued that the reason why wages and prices continued to fall was that the fulcrum around which the neoclassical system revolved--the money supply--fell during these years. During the years 1929-1933 the money supply (but not the reserve money of the economy) fell by some 25%, largely as a result of the bank failures. Over these years prices fell by 24.4% and money wages by 21.9%. Thus the fall in the money supply was of the same order of magnitude as the fall in prices. Over the same time period gross national product in current prices fell from $104.4 billions in 1929 to $56.0 billions in 1933--a decline of 46.4%. The decline in money could explain the fall in prices but it could not explain the decline in real output.

During 1929-33 the behavior of the price level, money wages, and the quantity of money relative to gross national product were consistent with the conditions that need to be satisfied if the mechanism of the neoclassical theory is to sustain demand: 1929-33 constitutes a test of one aspect of the relevance of the neoclassical system. The neoclassical synthesis fails that test of history. The view that money is a particular type of bond that finances activity, and not an eternally valid voucher whose supply is externally determined, seems relevant to an explanation of what happened in 1929-33. Because of the nature of money and the financial system, the financing of private activity through the banking system decreased rapidly over this period.[5]

Classical economic theory does not admit the proposition that the normal functioning of the economy demands prices that can generate surpluses large enough to validate debt and sustain the prices of capital assets. Debt validation implies that cash flows from debtor firms to creditor households and financial institutions. In 1933 cash payments were required to validate debts contracted during the prosperous years of the 1920's. But the income

to validate the debts of the late '20's during the 30's had to be obtained through markups on out-of-pocket costs consistent with current 30's prices. The decline in prices and wages between 1929 and 1933 raised the required percentage markups at the same time as excess capacity worked to lower the markups. The growing burden of the inherited debts was a barrier to recovery, and every decline in prices exacerbated an already onerous condition. The neoclassical theory ignored the possibility of over-indebtedness affecting income especially in periods of declining prices.

The role of over-indebtedness in the Great Depression was documented in a series of studies by the Twentieth Century Fund.[7] They concluded that "our debt difficulties were not the sole cause of the great depression, of course; nor was the depression the sole cause of our debt difficulties. But debt contributed to the lack of balance from which the depression came; and it was largely the weakness of our debt structure which made it possible for the business decline to go to such unprecedented length." (Debts and Recovery, p. 254.)

The institutional reforms of the Roosevelt years were based on two propositions that emerged from the Twentieth Century Fund and other studies of the time: (1) wage and price levels must never again so flexible that they could fall as quickly and as deeply as they did between 1929 and 1933, and (2) speculative and fraudulent use of debt had to be controlled.

The Twentieth Century Fund's Committee on Debt Adjustment recommended reducing the use of debt, broadening the eligible asset lists for savings banks and life insurance companies to include the equities of "companies having no substantial bonded debt" (p. 257), and to tie the life of debts, such as mortgages and bonds, to their economic life expectancy. The fully amortized, fixed-interest-rate mortgage as the norm for mortgage financing is child of the Great Depression reforms.

The structural reforms advocated by the Twentieth Century Fund biased the economy toward hedge finance. Many of its detailed recommendations sound very up-to-date. What is missing from them is an understanding that the events of 1929-33 were a logical outcome of the workings of our economy.

In the absence of a tenable theory about the causes of financial instability, policy was guided by the view that fraud, deception, and human error were responsible for the collapse. Banking and securities reforms focused on the prevention of fraud. The Securities and Exchange Commission, the Holding Company Act, and the provisions of the Glass-Steagall Act divorcing commercial and investment banking grew out of the desire to eliminate fraud and deception.

Human error posed a more difficult problem. Roosevelt had inherited a banking system in a state of collapse. The Federal Reserve, preoccupied with its own liquidity and solvency, had failed to intervene and support the commercial banks. As a result, the Federal Reserve's lender-of-last-resort role was split: (1) the deposit insurance function was given to the Federal Deposit Insurance Corporation, and (2) control of the money supply went to the Federal Reserve.

In acting as the lender-of-last-resort to commercial banks, the Federal Reserve first makes funds available through its discount window to ailing institutions and then the debts to the discount window are funded by the FDIC. The FDIC's ability to carry out its part of the two-step operation depends upon its ability to raise funds through the sale of Treasury securities and by borrowing. In the case of a substantial operation the Federal Reserve must actively support money markets. Thus the FDIC's ability to carry out its lender-of-last resort responsibilities depend on prior and concurrent action

by the Federal Reserve. Obviously the Federal Reserve could do the job of deposit insurance without the FDIC.

Why, one may well ask, did the Federal Reserve bide its time while the economic structure was crumbling? One reason must be the absence of a theory that explains the relation between financial crises and the nature of our system, combined with a lack of understanding of the effect of lender-of-last-resort operations on the economy.

The successful execution of the lender-of-last-resort function in the late twenties and early thirties would have required a substantial increase in the reserve base, which in turn would have meant an increase in the money-creating potential of the banking system. To the Federal Reserve this spelled inflation. And so, because of its anti-inflation bias, the Federal Reserve stood by and let things run their course. Today's complex federal structure overseeing banking is the direct result of the Federal Reserve's failure to fulfill its responsibilities in 1929-33.

VII. The Recovery

The great depression induced conservative attitudes towards the uses of debt financing on the part of industry and banks. Because of the size of the decline in income between 1929 and 1933 the burden of business debt grew: the ratio of non-financial corporation liabilities to Gross National Product rose from .92 in 1929 to 1.42 in 1933 even as the total non-financial corporation liabilities fell by some 17.4% (from $96.29 to $79.51 billion). As a result of this large burden of debt, business continued to decrease its debt during the subsequent recovery: non-financial corporate liabilities were $66.08 billion by the end of 1939. All categories of non-financial corporation liabilities but trade-debt were lower in 1939 than in 1933 even though gross national product was some 62.7% higher in 1939 than in 1933.

With bank loans to business falling, the nature of bank/business relations changed during the recovery period. The money supply increasingly became the end result of government debt owned by banks. Business entered upon a period in which internal finance was of increasing importance. In fact, in the next period, that of World War II, business became a large owner of financial assets in the form of government debt.

The United States has a highly decentralized banking system with a multitude of small banks even as a very large percentage of total bank resources are concentrated in giant money market banks. It is a weakness of the banking structure that there is a rough equality before the law of the giant money market and the modest main street banks. In particular while the provisions of the Glass-Steagall Act that separate investment and commercial banking have little effect on the financing possibilities of giant firms they do affect the ability of smaller banks and their natural customers' smaller firms to work together over the entire array of bank industry financing forms.

Although it is difficult to put values upon the effect of the constraint imposed upon business/bank relations by the Glass-Steagall Act, the decline in business borrowing from banks in the 1933-39 period indicates that the recovery was less than it might have been if greater flexibility of financing for "business" had been available from banks.

VIII. Conclusions

The dominant economic event of the inter-war period in the United States was undoubtedly the Great Depression. A significant consequence of the Great Depression was the hectic period of reform that followed. One aspect of the reform, that which separated investment and commercial banking even further than American history and tradition had separated the two, left a vacuum in that the institutional arrangement that furnished banking facilities to smaller units were poor. As the frightened large firms and banks that survived the great collapse became extraordinarily conservative in their preferred portfolio postures, this institutional hole operated to close one opening for the financing of economic buoyancy. It was almost 15 years after World War II before a euphoric boom took place.

If business is financially conservative, so that business deficits are minimized, then the sectoral deficits that are necessary to support the growth of profits must mainly come from government. The chronic government deficits of the 1930's and the post-war era were largely an offset to the conservative self-financing postures of business. However, the cumulative effect of the chronic government deficit as well as the eroding effect on the institutions and psychology that make for conservative finance of the successful operation of the post-war economy meant that a new era of corporate business deficit financing was sure to emerge. When this happened the reforms of the 1930's that swept away the vestiges of the commercial loan doctrine from the laws guiding banking meant that banks were able to enter upon longer-run financing commitments with business; however, these longer-run financing commitments required stability in business profits. The emergence of an American variety of Universal Banking depended upon the stability and expansion of profits that were assured by big and growing government. If the

stability of profits due to big and growing government is offset by substantial reforms that reduce the size of government, then the viability of business bank connections that are based upon longer term lending relations will be tested.

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Footnotes

[1]This paper is an exercise in applying the financial instability hypothesis interpretation of Keynes to the analysis of historical developments and institutional evolution in banking, finance and the economy. For the economic theoretic underpinning of what follows see Hyman P. Minsky John Maynard Keynes, Columbia University Press 1975.
and Hyman P. Minsky Can "It" Happen Again M. E. Sharpe & Co., 1982.

[2]M.Kalecki, Theory of Economic Dynamics George Allen and Unwin London 1954

[3]J. Viner, Business Cycle Theory: Can Depression be Avoided in Temperal? U.S. Department of Agriculture Graduate School, 1936

[4]Arthur M. Schlesinger, Jr., "The Coming of the New Deal," Vol. II of The Age of Roosevelt, Houghton-Mifflin Company, Boston, 1959, pp. 20-21.

[5]Excuses for the failure of the Federal Reserve to be an effective lender-of-last-resort are prominent in E. A. Goldenweiser, American Monetary Policy (New York: McGraw Hill, 1951).

[6]In monetary theory a "quantity theory veil" in which money obscures but does not basically affect the essential bartering relations that take place must be distinguished from a "financing veil" in which money enters in an essential way as the instrument that arises out of the financing of activity and of positions in capital assets. See H. P. Minsky, "Money, Financial Markets and the Coherence of a Market Economy," Journal of Post-Keynesian Economics, Vol. III, No. 1 (Fall 1980).

[7]The Internal Debts of the United States, ed. Evans Clark, with George B. Galloway. New York: MacMillan Company for the Twentieth Century Fund, 1933). Debts and Recovery [The Factual Findings by A. G. Hart, the Program by the Committee on Debt Adjustment], The Twentieth Century Fund, New York, 1938.

TABLE Ia

National Balance Sheet—1922 (million dollars)

Appendix 1

	Nonfarm Households	Nonfarm Unincorporated Business	Agriculture	Nonfinancial Corporations	Finance	State and Local Govts.	Federal Govt.	Total	
I. Tangible assets									I.
1. Residential structures	52,444	2,400	6,569			13,342			1.
2. Nonresidential structures	4,030	8,215	5,822	74,706	1,584		3,981	258,404	2.
3. Land	21,504	4,119	41,543			11,100			3.
4. Producer durables	175	3,124	3,200			121	35		4.
5. Consumer durables	27,233		3,700					30,940	5.
6. Inventories		6,070	8,454	17,347		40	30	32,550	6.
7. Total	105,414	24,837	69,357	92,053	1,584	24,603	4,046	321,894	7.
II. Intangible assets									II.
1. Currency and demand deposits	9,862	2,610	1,902	5,587	13,799	1,097	544	35,401	1.
a. Monetary metals			117	57	3,091	6			
b. Other			1,645	5,530	9,808	1,091			
2. Other bank deposits and shares	18,328		1,377	700		365	56	20,826	2.
3. Life insurance reserves, private	7,709		921					8,700	3.
4. Pension and retirement funds, private	90							90	4.
5. Pension and insurance funds, govt.	240		11					251	5.
6. Consumer credit		694		4,040	916			5,650	6.
7. Trade credit		2,679		12,027				14,935	7.
8. Loans on securities				450	6,253			6,703	8.
9. Bank loans, n.e.c.					18,211			18,211	9.
10. Other loans	500				1,162		83	1,745	10.
11. Mortgages, nonfarm	6,707				9,947			16,654	11.
a. Residential	4,377				6,715			11,092	
b. Nonresidential	2,330				3,232			5,562	
12. Mortgages, farm	4,761	946	910		3,518		651	10,786	12.
13. Securities, U.S. government	10,806		450	3,563	7,715	232	229	22,995	13.
a. Short-term									
b. Savings bonds									
c. Other long-term				337	2,854	2,210		10,384	14.
14. Securities, state and local	4,983				7,762		2	23,567	15.
15. Securities, other bonds and notes	15,923							76,093	16.
16. Securities, preferred stock	55,520			19,234	1,339				17.
17. Securities, common stock								803	18.
18. Equity in mutual financial organizations	803							21,647	19.
19. Equity in other business	21,647							27,328	20.
20. Other intangible assets	4,000		410	14,300	7,006	312	1,310	322,929	21.
21. Total	161,939	7,128	6,051	60,239	80,452	4,216	2,675		
III. Liabilities									III.
1. Currency and demand deposits					33,841		457	34,205	1.
2. Other bank deposits and shares					20,942		135	21,077	2.
3. Life insurance reserves, private					8,700			8,700	3.
4. Pension and retirement funds, private					90			90	4.
5. Pension and insurance funds, govt.					251			251	5.
6. Consumer debt	2,979		167					3,146	6.
7. Trade debt		2,471	2,707	12,450				17,328	7.
8. Loans on securities	4,534			219	1,950			6,703	8.
9. Bank loans, n.e.c.	600	4,057	3,088	8,093	740			17,779	9.
10. Other loans	1,305		173	67	574			2,119	10.
11. Mortgages	8,010	3,948	10,786	4,326				27,470	11.
12. Bonds and notes	236	242		24,516	233	10,284	23,038	58,309	12.
13. Other liabilities	190			14,031	3,603		183	17,907	13.
14. Total	18,084	11,318	17,011	64,423	70,924	10,384	24,423	216,567	14.
IV. Equities	249,269	20,647	52,397	87,868	11,141	18,435	-17,502	428,255	IV.
V. Total assets or liabilities and equities	267,353	31,965	69,408	152,291	82,065	28,819	6,921	644,822	V.

GNP Current $74.0

SOURCE: Raymond W. Goldsmith, Robert E. Lipsey and Morris Mendleson. Studies in the National Balance Sheet of the United States, Vol. II, Basic Data and Balance Sheet and Fund Flows, National Bureau of Economic Research, Princeton University Press, 1963.

TABLE B

National Balance Sheet—1929 (million dollars)

	Nonfarm Households	Nonfarm Unincorporated Business	Agriculture	Nonfinancial Corporations	Finance	State and Local Govts.	Federal Govt.	Total	
I. Tangible assets									I.
1. Residential structures	79,408	5,480	6,377			21,170			1.
2. Nonresidential structures	5,568	11,241	5,855	99,293	2,990		4,935	342,340	2.
3. Land	33,815	8,705	34,930			13,200			3.
4. Producer durables	372	4,562	3,871			505	63		4.
5. Consumer durables	38,423		3,806					42,229	5.
6. Inventories		6,426	9,487	22,001		60	3	37,977	6.
7. Total	157,586	36,414	64,326	121,294	2,990	34,935	5,001	422,546	7.
II. Intangible assets									II.
1. Currency and demand deposits	8,602	2,842	1,782	7,449	17,079	1,767	234	39,755	1.
a. Monetary metals			96	71	4,474	5			
b. Other			1,686	7,378	12,605	1,762			
2. Other bank deposits and shares	30,542		1,726	1,410		712	138	34,528	2.
3. Life insurance reserves, private	15,851		1,651					17,502	3.
4. Pension and retirement funds, private	500							500	4.
5. Pension and insurance funds, govt.	1,356		114					1,470	5.
6. Consumer credit		1,280		3,979	3,305			8,564	6.
7. Trade credit		2,946		21,861	903			25,716	7.
8. Loans on securities				2,000	14,345			16,345	8.
9. Bank loans, n.e.c.					20,513			20,513	9.
10. Other loans	1,200				2,616		226	4,042	10.
11. Mortgages, nonfarm	13,570				23,281			36,851	11.
a. Residential	8,527				16,385			24,912	
b. Nonresidential	5,043				6,896			11,939	
12. Mortgages, farm	3,551	681	318		3,681		1200	9,631	12.
13. Securities, U.S. government	5,053			3,158	7,658	255	52	16,176	13.
a. Short-term									
b. Savings bonds									
c. Other long-term									
14. Securities, state and local	7,642			644	4,956	3,631		16,873	14.
15. Securities, other bonds and notes	24,078			543	13,465		13	38,099	15.
16. Securities, preferred stock	138,296			42,309	6,080			186,685	16.
17. Securities, common stock									17.
18. Equity in mutual financial organizations	1,628							1,628	18.
19. Equity in other business	29,535							29,535	19.
20. Other intangible assets	9,100		600	23,421	11,473	520	1,375	46,489	20.
21. Total	290,504	7,749	6,191	106,774	129,561	6,885	3,238	550,902	21.
III. Liabilities									III.
1. Currency and demand deposits					40,865		411	41,276	1.
2. Other bank deposits and shares					34,720		168	34,888	2.
3. Life insurance reserves, private					17,502			17,502	3.
4. Pension and retirement funds, private					500			500	4.
5. Pension and insurance funds, govt.					1,470			1,470	5.
6. Consumer debt	6,428		462					6,890	6.
7. Trade debt		2,701	1,691	15,970				20,362	7.
8. Loans on securities	11,579			566	4,200			16,345	8.
9. Bank loans, n.e.c.	800	4,734	2,491	9,446	2,214			19,695	9.
10. Other loans	3,019		310	128	1,325			4,812	10.
11. Mortgages	17,935	7,697	9,031	11,169				46,452	11.
12. Bonds and notes	1,704	1,606		36,258	1,577	16,873	17,539	75,647	12.
13. Other liabilities	780			22,755	6,777		35	29,857	13.
14. Total	41,845	16,028	14,585	96,291	111,150	16,873	18,153	315,725	14.
IV. Equities	406,245	27,335	55,932	131,777	21,402	24,947	-9,914	657,724	IV.
V. Total assets or liabilities and equities	448,090	44,163	70,517	228,068	132,552	41,820	8,239	973,449	V.

GNP Current $104.4

Source: Same as Table 1

TABLE Ia

National Balance Sheet—1933 (million dollars)

	Nonfarm Households	Nonfarm Unincorporated Business	Agriculture	Nonfinancial Corporations	Finance	State and Local Govts.	Federal Govt.	Total
I. Tangible assets								
1. Residential structures	61,737	4,360	4,634			24,036		
2. Nonresidential structures	4,766	9,799	4,047				5,552	
3. Land	24,647	4,572	22,600	75,322	4,824	13,150		270,899
4. Producer durables	283	3,204	2,572			433	111	
5. Consumer durables	23,765		1,954					25,719
6. Inventories		3,092	4,946	13,796		60	3	21,897
7. Total	115,198	25,027	40,953	89,118	4,824	37,729	5,666	318,515
II. Intangible assets								
1. Currency and demand deposits	11,181	1,914	1,199	5,599	15,952	1,736	1,219	38,800
a. Monetary metals			73	33	4,611	4		
b. Other			1,126	5,566	11,341	1,732		
2. Other bank deposits and shares	25 846		1,177	1,010		360	914	29,207
3. Life insurance reserves, private	18,399		1,963					20,862
4. Pension and retirement funds, private	700							700
5. Pension and insurance funds, govt.	2,722		234					2,956
6. Consumer credit		749		1,938	1,621			4,299
7. Trade credit		1,818		15,915	464			18,197
8. Loans on securities					5,152			5,152
9. Bank loans, n.e.c.					9,957			9,967
10. Other loans	300				5,503		1,989	7,792
11. Mortgages, nonfarm	30,537				19,797		132	30,466
a. Residential	7,152				13,768		132	21,052
b. Nonresidential	3,385				6,029			9,414
12. Mortgages, farm	2,741	508	237		2,954		1,245	7,685
13. Securities, U.S. government	6,845			2,837	13,659	219	309	23,869
a. Short-term								
b. Savings bonds								
c. Other long-term								
14. Securities, state and local	9,478			607	5,908	3,041	50	19,084
15. Securities, other bonds and notes	24,577			83	13,043		45	37,748
16. Securities, preferred stock	57,113			40,473	3,869		249	101,704
17. Securities, common stock								
18. Equity in mutual financial organizations	1,746							1,746
19. Equity in other business	18,632							18,632
20. Other intangible assets	4,100		600	11,929	5,814	492	1,415	24,350
21. Total	195,417	4,969	5,410	80,390	103,703	5,848	7,567	403,315
III. Liabilities								
1. Currency and demand deposits					36,600		414	37,014
2. Other bank deposits and shares					25,858		1,230	28,088
3. Life insurance reserves, private					20,862			20,862
4. Pension and retirement funds, private					700			700
5. Pension and insurance funds, govt.					2,956			2,956
6. Consumer debt	3,235		198					3,433
7. Trade debt		1,802	788	11,888				14,476
8. Loans on securities	4,015			137	1,000			5,152
9. Bank loans, n.e.c.	509	2,230	913	5,210	913			9,766
10. Other loans	5,284		840	1,277	480			7,831
11. Mortgages	14,584	6,169	7,688	9,713				38,151
12. Bonds and notes	1,536	1,774		35,629	1,016	19,084	25,494	84,533
13. Other liabilities	200			15,660	2,857	417	56	19,190
14. Total	29,354	11,975	10,422	79,514	94,242	19,501	27,194	272,202
IV. Equities	281,261	18,032	35,941	89,994	14,285	24,076	−13,961	449,628
V. Total assets or liabilities and equities	310,615	30,007	46,363	169,508	108,527	43,577	13,233	721,830

Sources Same as Table I

GNP Current $56.0

TABLE 1a

National Balance Sheet—1939 (million dollars)

	Nonfarm Households	Nonfarm Unincorporated Business	Agriculture	Nonfinancial Corporations	Finance	State and Local Govts.	Federal Govt.	Total	
I. Tangible assets									I.
1. Residential structures	76,839	5,250	4,906			28,713			1.
2. Nonresidential structures	5,368	11,453	4,092	83,580	5,560		9,687	313,155	2.
3. Land	26,117	5,474	23,237			14,600			3.
4. Producer durables	153	3,840	3,509			476	301		4.
5. Consumer durables	29,964		2,550					32,514	5.
6. Inventories		4,145	7,304	17,993		60	937	30,445	6.
7. Total	138,441	30,162	45,598	101,573	5,560	43,849	10,925	376,114	7.
II. Intangible assets									II.
1. Currency and demand deposits	15,541	3,248	2,000	6,656	60,140	2,980	1,596	94,209	1.
a. Monetary metals			91	74	20,177	6			
b. Other			1,909	8,624	39,663	2,980			
2. Other bank deposits and shares	29,158		1,200	700	2	553	303	31,916	2.
3. Life insurance reserves, private	26,629		2,599					29,228	3.
4. Pension and retirement funds, private	1,050							1,050	4.
5. Pension and insurance funds, govt.	6,120		110					6,230	5.
6. Consumer credit		1,168		2,966	3,688			7,822	6.
7. Trade credit		2,602		11,967	1,010			14,679	7.
8. Loans on securities					2,696			2,696	8.
9. Bank loans, n.e.c.					9,634			9,834	9.
10. Other loans	400				3,499		1,947	5,646	10.
11. Mortgages, nonfarm	8,568				18,153		2,182	28,903	11.
a. Residential	5,879				12,781		2,182	20,842	
b. Nonresidential	2,689				5,372			8,061	
12. Mortgages, farm	1,632	311	145		1,697		2,801	6,586	12.
13. Securities, U.S. government:	9,140		249	1,776	33,506	250	2,080	47,001	13.
a. Short-term									
b. Savings bonds									
c. Other long-term									
14. Securities, state and local	8,274			379	8,054	2,762	296	19,765	14.
15. Securities, other bonds and notes	16,836			112	14,692		862	32,502	15.
16. Securities, preferred stock	73,231			21,969	4,359		572	100,131	16.
17. Securities, common stock									17.
18. Equity in mutual financial organizations	1,678							1,678	18.
19. Equity in other business	28,307							28,307	19.
20. Other intangible assets	5,800		826	4,238	5,348	601	2,023	18,836	20.
21. Total	232,364	7,329	7,129	51,905	166,673	7,152	14,662	487,219	21.
III. Liabilities									III.
1. Currency and demand deposits					78,068		1,128	79,196	1.
2. Other bank deposits and shares					30,348		1,315	31,663	2.
3. Life insurance reserves, private					29,228			29,228	3.
4. Pension and retirement funds, private					1,050			1,050	4.
5. Pension and insurance funds, govt.					6,230			6,230	5.
6. Consumer debt	7,197		417					7,614	6.
7. Trade debt		2,664	703	12,807				16,234	7.
8. Loans on securities	1,869			127	700			2,696	8.
9. Bank loans, n.e.c.	567	1,716	900	4,344	1,439		235	9,201	9.
10. Other loans	3,520		924	571	625			5,650	10.
11. Mortgages	15,525	4,544	6,586	8,834				35,489	11.
12. Bonds and notes	702	660		31,445	778	19,765	55,070	108,421	12.
13. Other liabilities	600			7,952	4,623	54	217	13,446	13.
14. Total	29,990	9,584	9,590	66,081	153,089	19,819	57,965	346,118	14.
IV. Equities	340,815	27,907	43,137	87,403	19,149	31,182	-32,378	517,214	IV.
V. Total assets or liabilities and equities	370,805	37,491	52,727	153,484	172,238	51,001	25,587	863,333	V.

GNP Current $91.1 Same Sense as Table 1.

Appendix 5

Gross National Product in Current Prices, Implicit Price Index and Demand Deposits and Currency Adjustment, 1919-1941

	GNP Current Price	$\frac{GNP_t}{GNP_{t-1}}$	Implicit Price Index (1929=100)	$\frac{P_t}{P_{t-1}}$	Demand Deposits and Currency Adjusted	$\frac{N_t}{N_{t-1}}$
1919	78.9		106.0		34.6	
1920	88.9	1.127	121.0	1.142	39.6	
1921	74.0	.832	103.0	.851	37.4	
1922	74.0	1.000	98.	.951	38.8	
1923	86.1	1.164	100.	1.020	42.4	
1924	87.6	1.017	99	.990	44.3	
1925	91.3	1.042	101	1.020	48.1	
1926	97.7	1.070	101	1.000	50.3	
1927	96.3	.986	99	.990	52.0	
1928	98.2	1.020	100	1.010	54.4	
1929	104.4	1.063	100	1.000	54.8	
1930	91.1	.873	96	.960	54.0	.985
1931	76.3	.838	85	.885	52.4	.970
1932	58.5	.766	77	.906	45.0	.859
1933	56.0	.957	75	.974	40.8	.907
1934	65.0	1.161	80	1.067	44.2	
1935	72.5	1.115	79	.938	49.1	
1936	82.7	1.141	82	1.038	53.9	
1937	90.8	1.100	83	1.012	56.6	
1938	85.2	.938	83	1.000	56.0	
1939	91.1	1.069	82	.988	60.2	
1940	100.6	1.104	83	.988	60.2	
1941	125.8	1.251	91	1.096	73.4	
1912-16	40.3		64			

Statistical Abstract of United States

Appendix 6

Data and Ratios

		1922	1929	1933	1939
1.	Velocity: GNP current $ ÷ total DD and Currency	2.09	2.63	1.44	.97
2.	GNP ÷ U.S. Gov. Securities	3.22	6.45	2.35	1.94
3.	Household Debts ÷ GNP	.24	.40	.52	.33
4.	Non-Financial Corporate Debt ÷ GNP	.87	.92	1.42	.96
5.	State + Municipal Debt GNP	.14	.16	.35	.34
6.	Equity Values ÷ GNP	1.03	1.79	1.82	1.10
7.	GNP Current $	74.0	104.4	56.0	91.1
8.	Household Equity Ownership	55.5	138.3	57.1	73.2
9.	Demand Deposits + Currency	38.8	54.8	40.8	60.2
10.	DD + Currency - Fin. System H. U.S. Gov. Debt	31.1	47.1	27.1	26.7
11.	Household Debts	18,084	41,845	29,354	29,990
	a. Mortgates	8,310	17,985	14,584	15,525
	b. Consumer Debt	2,979	6,428	3,235	7,197
	c. Security	4,534	11,579	4,015	1,869
12.	Household Disposable Income	60.3	83.1	45.7	70.4
13.	Federal Government Obligations	24,423	18,153	27,194	57,965
14.	(DD + Currency - Fin. Syst. Holdings U.S. Gov.) Gov.) U.S. Gov.	1.27	2.59	1.00	.46

Author Calculations

Appendix 7

Liabilities of Non-Financial Corpoirations' Annual Rates of Growth

	1922-29	1929-33	1933-39
Total	5.91%	-4.67	-3.03
Bank Loan NEC	1.20	-13.87	-3.00
Bonds and Notes	5.75	-00.44	-2.06
Trade Debt	3.62	-7.11	1.24
Other Liabilities	7.10	-8.92	-10.68
Mortgages	14.24	-3.44	-1.57

Source - Author Calculations

Appendix 8

Rates of Growth

	1922-29	1929-33	1933-39
GNP	5.0	-14.4	8.4%
Demand Deposits + Currency	5.1	-7.1%	6.7%
Household Equity Ownership	13.9%	-19.8%	4.2%
Household Debts			
Total	12.7%	-8.5%	0.36%
Mortgages	11.7%	-5.1%	1.05
Consumer	11.6%	-15.8%	14.3
Security	14.3%	-27.3%	-8.74
Household Disposable Income	4.69%	-13.9%	7.5
U.S. Government Liabilities	-4.15	10.6%	13.4%

Household Debts Aggregate and Selected Types
Ratio to Household Disposable Income
1922, 1929, 1933 and 1939

	1922	1929	1933	1939
Total/Disposable Y	29.9	50.4	64.2	42.6
Mortgates/Disposable Y	13.8	21.6	31.9	22.1
Consumer Debt/Disposable Y	4.9	7.4	7.1	10.2
Security Debt/Disposable Y	7.5	13.9	8.8	2.7

Rates of Growth of Velocity
1922-1929

	1922/29	1929/33	1933/39
Current $GNP ÷ Total DD + Currency	3.34%	-13.98	-6.37

Source: Author Computations